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Quarterly Demographic Estimates

January to March 2018

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Notice to readers

Estimates released in this publication are based on the 2011 Census counts adjusted for census net undercoverage and incompletely enumerated Indian reserves to which is added the estimated demographic growth for the period going from May 10, 2011 to the date of the estimate.

These estimates are not to be mistaken with the census counts.

Total population estimates based on the 2016 Census counts, adjusted for census net undercoverage and incompletely enumerated Indian reserves, will be available in September 2018.

The analysis in this publication is based on preliminary data. These data will be revised over the coming years, and it is possible that some trends described in this publication will change as a result of these revisions. Therefore, this publication should be interpreted with caution.

Most of the components, used to produce preliminary population estimates, are estimated using demographic models or based on data sources less complete or reliable, albeit more timely, than those used for updated or final estimates.

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The completion of this publication and the dissemination of the quarterly demographic estimates rest on the assiduous and meticulous work of the members of the Population Estimates Section of the Demography Division.

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Quarterly Demographic Estimates

Highlights

- Canada's population passed the 37-million people mark in the first quarter of 2018, when its total population was estimated at 37,067,011 on April 1, 2018. It took two years and two months to grow from 36 to 37 million people—the shortest length of time ever observed in the country for an increase of this magnitude since 1972.
- Between January 1 and April 1, 2018, Canada's population grew by 103,157 (+0.3%), the second largest increase in number for a first quarter since 1990.
- In the first quarter of 2018, Canada's population growth was primarily attributable to international migration (+88,120), a level never before seen in a first quarter.
- Population growth was higher in Nunavut (+0.7%), in Ontario and in Alberta (+0.4% each) than in Canada.
- Preliminary population estimates for the last quarter show that Alberta recorded interprovincial migration gains (+1,862) for a third consecutive quarter, following two consecutive years of interprovincial migratory losses.
- Interprovincial migration was positive for the eleventh consecutive quarter in Ontario (+4,024).

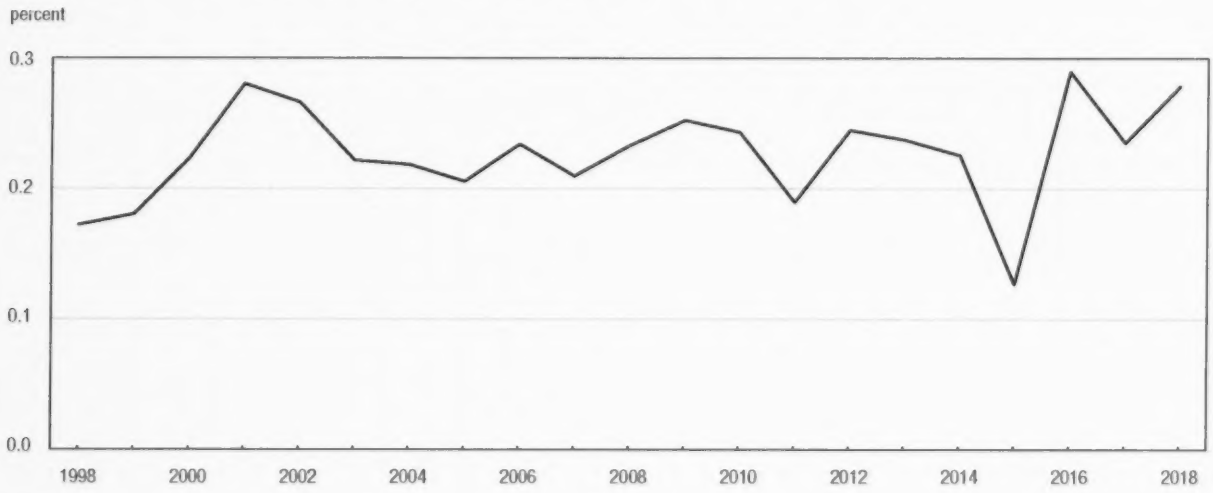
Analysis

Canada's population passes the 37-million mark

According to preliminary population estimates, Canada's population was 37,067,011 on April 1, 2018. The population of Canada grew from 36 to 37 million people in only two years and two months. This was the shortest length of time ever seen in Canada for an increase of this magnitude. By comparison, since 1971, Canada's population grew on average by 1 million once every three years and one month.[1]

The Canadian population increased by 103,157 between January 1 and April 1, 2018. This quarterly increase is the second highest in number (after 2016) for a first quarter since 1990. Moreover, Canada's population growth rate between January 1 and April 1, 2018 was 0.3%.

Chart A1
Population growth rate, January to March, 1998 to 2018, Canada



Source: Statistics Canada, Demography Division.

1. The period covered by the current demographic accounting system began in July 1971. The first quarter was covered for the first time in 1972.

International migration continues to account for most of the population growth

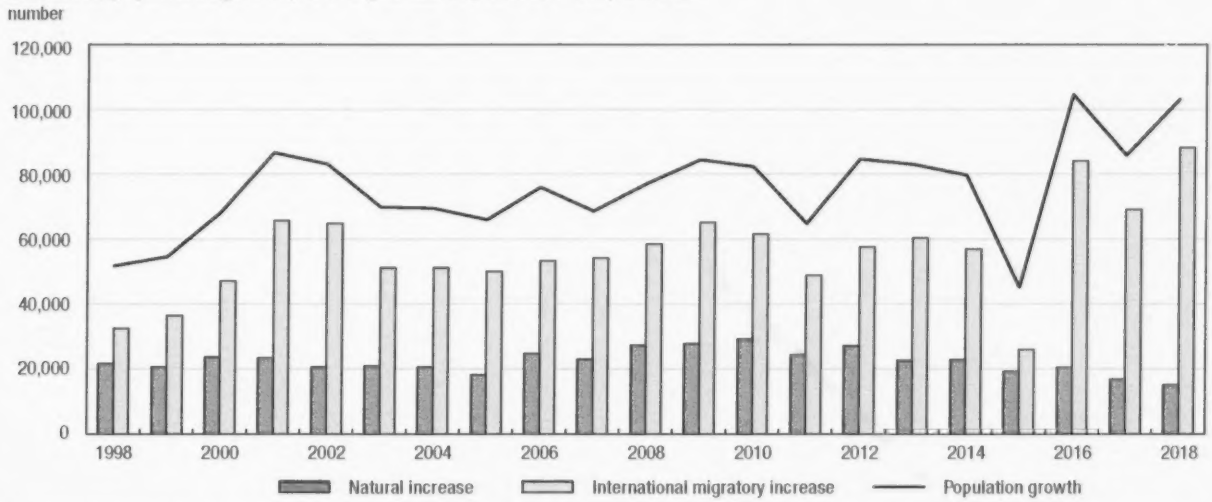
Nationally, population growth is based on two factors: natural increase[2] and international migratory increase.[3] Provincial and territorial population estimates also factor in interprovincial migratory increase.

International migratory increase has remained the main driver of Canada's population growth, with an estimated increase of 88,120 between January 1 and April 1, 2018, the highest level since 1972.[4] In Canada, the growth in the last quarter was mostly stimulated by an increase in the number of immigrants (+79,951). This is the second highest gain for a first quarter, after the first quarter of 2016 (+86,245).[5]

The country also posted a net increase in the number of non-permanent residents (+22,283) in the first quarter of 2018, also up compared with the average in the past few years. In any first quarter, the increase in the number of non-permanent residents was higher on just two occasions: in 2009 (+23,601) and in 1989 (+36,398). This overall increase was explained by the combined effect of an increase in the number of work permit holders, and to a lesser extent an increase in the number of refugee claimants.[6] The components of net emigration (emigration, return emigration and the net temporary emigration) remained stable (-14,114).

According to preliminary estimates, natural increase in the first quarter of 2018 was 15,037, the lowest estimated level for all quarters combined.[7] Natural increase is the difference between 93,944 births and 78,907 deaths. The number of births is often higher between July and September (the summer months) in Canada because of seasonal movement. A similar phenomenon is observed for deaths, except that there are more deaths in the first quarter from January to March (during the winter season). In the coming years, the natural increase is expected to decrease, primarily as a result of population aging, which results in a growth of the number of deaths recorded each year.

Chart A2
Factors of population growth, January to March, 1998 to 2018, Canada



Note: Before 2012, population growth is not equal to the sum of natural increase and international migratory increase because residual deviation must also be considered in the calculation.
Source: Statistics Canada, Demography Division.

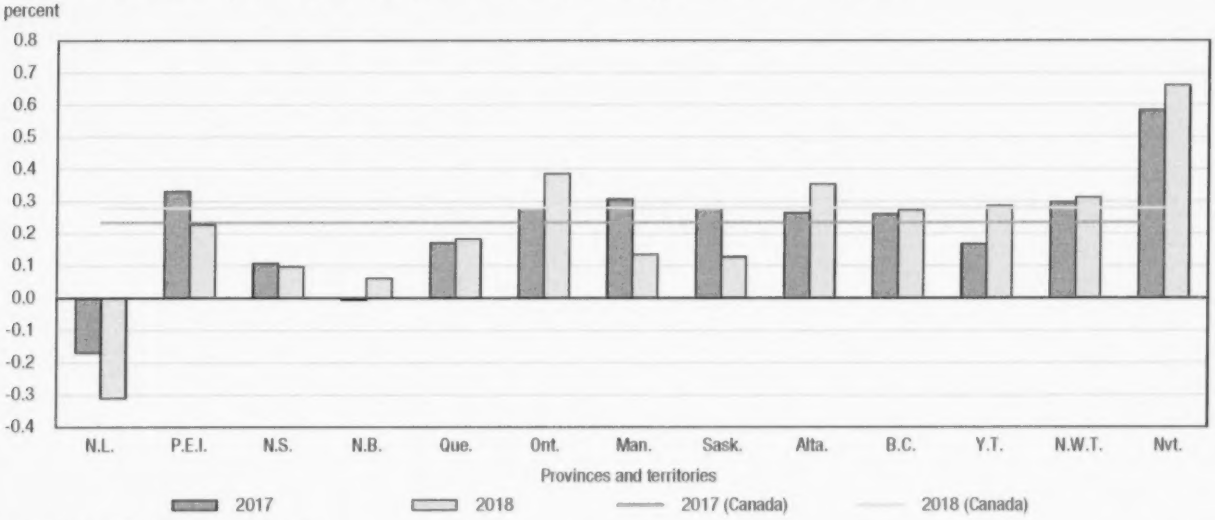
2. Natural increase is the difference between the number of births and the number of deaths.
3. International migratory increase basically refers to the total number of moves between Canada and abroad that result in a change in the usual place of residence. It is calculated by adding immigration, return emigration and net non-permanent residents, then subtracting emigration and net temporary emigration.
4. Since the beginning of the period covered by the current demographic accounting system (July 1971). The first quarter was covered for the first time in 1972.
5. The arrival of Syrian refugees accounted for much of the increase in the number of immigrants recorded in the first three months of 2016.
6. There are three main categories of non-permanent residents: work permit holders, study permit holders and refugee claimants. Net non-permanent residents is calculated by subtracting the number of non-permanent residents estimated at the beginning of the period from the number estimated at the end of the period.
7. Since the beginning of the period covered by the current demographic accounting system (July 1971). The first quarter was covered for the first time in 1972.

The population is growing everywhere except in Newfoundland and Labrador

The population grew[8] in all provinces and territories in the first quarter of 2018, except in Newfoundland and Labrador (-0.3%). Nunavut (+0.7%), Ontario and Alberta (+0.4% each) had higher population growth rates than Canada's (+0.3%).

Compared with the same period last year, an increase in the population growth rate was observed in Ontario, Alberta, Yukon and Nunavut (Chart A3). The data also show a shift in the growth rate in New Brunswick from zero to positive.

Chart A3
Population growth rate, January to March, 2017 and 2018, Canada, provinces and territories



Source: Statistics Canada, Demography Division.

8. A rate higher than -0.1% and lower than 0.1% is considered not significant and relatively stable.

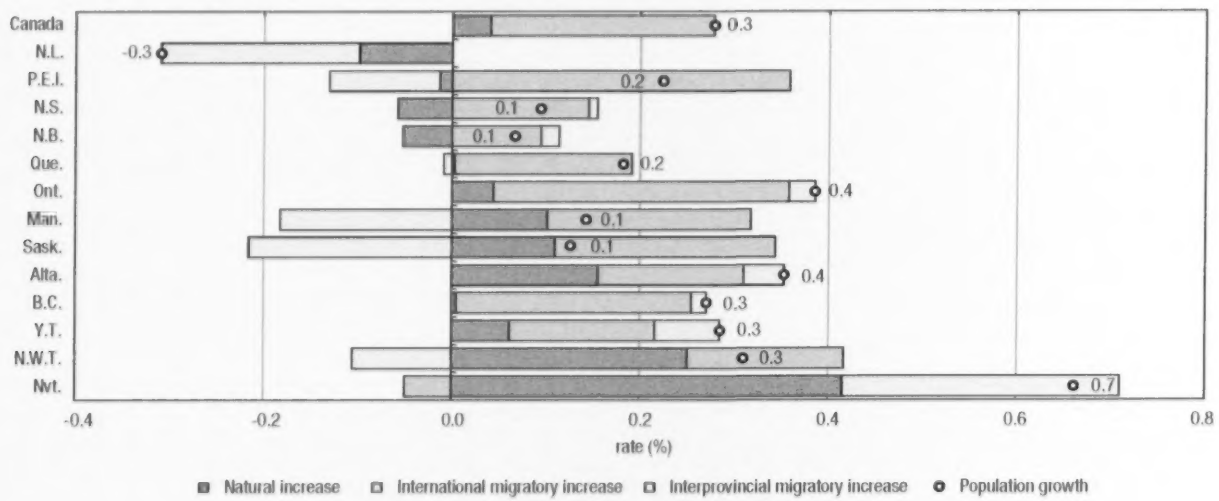
International migration is the main source of population growth for most provinces

In the first quarter of 2018, international migratory increase was the main driver of population growth in almost all provinces that posted a population gain and in Yukon. International migratory increase in the first quarter peaked in Quebec and has rarely been this high in the Atlantic provinces (except in Newfoundland and Labrador), in Ontario and in the Northwest Territories. Furthermore, international migration offset interprovincial migratory losses in Prince Edward Island, Quebec, Manitoba, Saskatchewan and the Northwest Territories. It also compensated for negative natural increase (more deaths than births) in the Atlantic provinces (except in Newfoundland and Labrador).

In Alberta, natural increase and international migratory increase each accounted for 44% of the population growth, with positive interprovincial migration accounting for the rest. Nunavut and the Northwest Territories continued to post the highest rates of natural increase, with 0.4% and 0.3% respectively. Fertility levels in these two territories are among the highest in Canada.[9]

In Quebec, Ontario and British Columbia, an increase in the number of non-permanent residents accounted for part of the international migratory increases. Quebec posted a gain of 7,051 non-permanent residents, a level never before seen for a first quarter.[10] In Ontario, the estimated 15,662 non-permanent residents level was the second highest level observed for a first quarter, after 1989 (+25,678). Lastly, British Columbia posted a gain of 3,577 non-permanent residents, a level rarely reached in the past.

Chart A4
Factors of population growth, January to March, 2018, Canada, provinces and territories



Source: Statistics Canada, Demography Division.

9. Source: Statistics Canada, table 13-10-0418-01 (formerly CANSIM 102-4505). Last modified: 2018-06-08 (https://www150.statcan.gc.ca/t1/tbl1/en/tv.action?pid=1310041801&request_locale=en)
10. Since the start of the period covered by the current demographic accounting system (July 1971). The first quarter was covered for the first time in 1972.

Table A1
Population on April 1st 2018 and population growth, first quarter, 2017 and 2018, Canada, provinces and territories

	Population	Population growth for the first quarter			
		2017		2018	
		number	rate (%)	number	rate (%)
Canada	37,067,011	85,808	0.23	103,157	0.28
N.L.	525,983	-893	-0.17	-1,630	-0.31
P.E.I.	153,116	498	0.33	348	0.23
N.S.	958,400	1,026	0.11	930	0.10
N.B.	761,214	-50	-0.01	470	0.06
Que.	8,455,402	14,308	0.17	15,477	0.18
Ont.	14,374,084	39,508	0.28	55,334	0.39
Man.	1,348,809	4,077	0.31	1,816	0.13
Sask.	1,171,240	3,207	0.28	1,488	0.13
Alta.	4,334,025	11,282	0.26	15,253	0.35
B.C.	4,862,610	12,430	0.26	13,168	0.27
Y.T.	38,936	64	0.17	111	0.29
N.W.T.	44,736	132	0.30	139	0.31
Nvt.	38,456	219	0.58	253	0.66

Source: Statistics Canada, Demography Division.

Ontario, Alberta and British Columbia gain in their migratory exchanges with the other provinces and territories

According to preliminary population estimates, Alberta had positive net interprovincial migration (+1,862) for a third consecutive quarter, following two consecutive years of interprovincial migration losses (not shown). In its exchanges with the other provinces and territories, Alberta's migratory gains came primarily from Saskatchewan, Manitoba, Nova Scotia and Newfoundland and Labrador. These gains were partially offset by migratory losses to Ontario and Quebec.

In Ontario, net interprovincial migration was positive (+4,024) for an eleventh successive quarter, a first since the early 2000s. Ontario continued to post the highest interprovincial migratory increase in absolute numbers, with migrants coming from most provinces and territories, particularly from Quebec, the Prairie provinces and British Columbia.

British Columbia placed third in terms of the strongest interprovincial gains (+796), pursuing a five-year trend of uninterrupted gains in interprovincial migration. In the first quarter of 2018, interprovincial migrants in British Columbia came primarily from Saskatchewan, Manitoba and Newfoundland and Labrador.

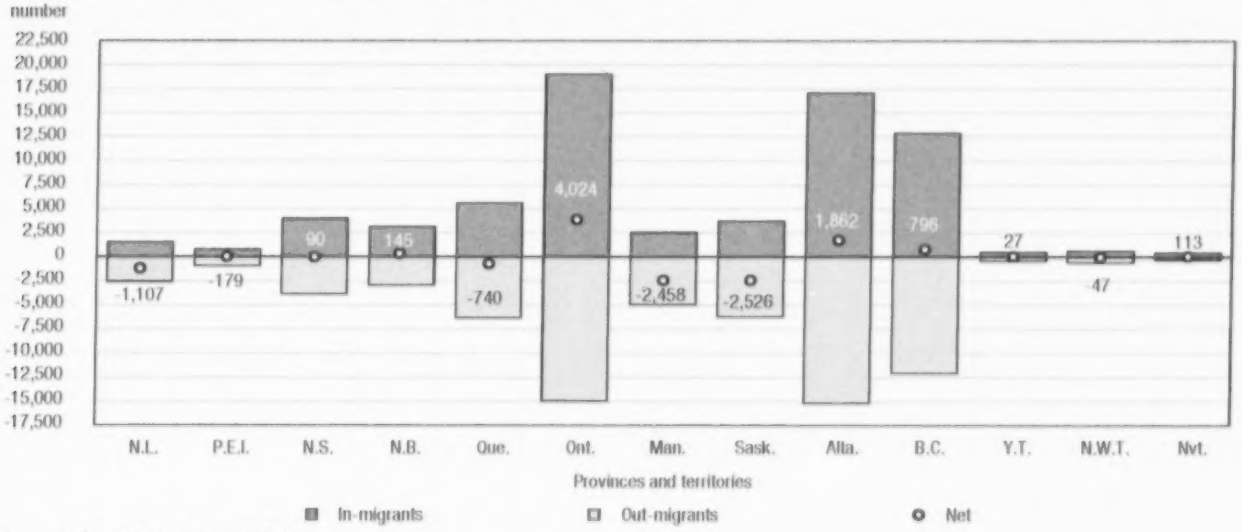
In Nova Scotia, net interprovincial migration remained positive (+90), while modest, for a fifth consecutive quarter, which has not been seen since 1985. These interprovincial gains came at the expense of New Brunswick and Newfoundland and Labrador.

In Quebec, interprovincial migration remained negative (-740), although smaller than usual for a first quarter for a second year in a row (-1,836 on average in the first quarter between 2006 and 2016). All quarters combined, the last time net interprovincial migration was greater than zero in Quebec (+15) was in the fourth quarter of 2009.

The first quarter of 2018 (-1,107) marked two consecutive years of interprovincial migratory losses for Newfoundland and Labrador. The last time the province had such a long period of quarterly deficits was in 1991-2007. The following quarters were rather positive until the beginning of 2016. Migratory losses were especially notable in Alberta, following several quarters in which they had subsided.

Manitoba (-2,458) also saw its largest interprovincial migratory losses for a first quarter since 1972, and Saskatchewan (-2,526) had its lowest quarter since 1990. Both provinces had significant outflows to Ontario, Alberta and British Columbia.

Chart A5
Interprovincial migration, January to March 2018, provinces and territories



Source: Statistics Canada, Demography Division.

Statistical tables

Table 1.1
Quarterly population estimates, Canada, provinces and territories - Population

	Canada	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
	number													
2011														
July 1st	34,342,780	525,037	144,038	944,469	755,530	8,007,656	13,263,544	1,233,728	1,066,349	3,790,191	4,499,139	35,402	43,501	34,196
October 1st	34,469,327	525,874	144,496	945,260	755,700	8,031,428	13,317,140	1,237,759	1,070,894	3,807,046	4,520,299	35,533	43,541	34,357
2012														
January 1st	34,536,389	526,211	144,575	944,901	756,278	8,044,417	13,336,799	1,242,058	1,075,165	3,826,708	4,525,605	35,637	43,597	34,438
April 1st	34,621,054	525,708	144,878	944,705	755,973	8,059,380	13,366,514	1,245,805	1,079,490	3,851,637	4,533,017	35,681	43,645	34,621
July 1st	34,750,545	526,450	145,080	944,943	756,777	8,085,906	13,413,702	1,250,265	1,086,018	3,880,755	4,546,290	36,058	43,594	34,707
October 1st	34,881,369	527,296	145,195	944,933	756,738	8,103,961	13,465,579	1,254,664	1,092,014	3,910,544	4,565,665	36,244	43,650	34,886
2013														
January 1st	34,936,495	527,418	144,991	944,535	756,061	8,113,237	13,480,215	1,258,573	1,095,283	3,932,995	4,568,275	36,177	43,705	35,030
April 1st	35,019,500	527,544	144,907	943,503	755,599	8,126,316	13,508,005	1,261,632	1,098,806	3,961,496	4,576,691	36,103	43,832	35,066
July 1st	35,152,370	527,399	145,198	943,049	755,710	8,151,331	13,555,754	1,265,588	1,104,825	3,997,950	4,590,081	36,298	43,773	35,414
October 1st	35,289,109	528,425	145,340	943,063	755,529	8,170,222	13,608,292	1,269,524	1,109,502	4,029,995	4,613,659	36,209	43,721	35,628
2014														
January 1st	35,334,385	528,595	145,374	943,186	755,571	8,176,001	13,616,797	1,272,794	1,112,832	4,051,281	4,616,370	36,141	43,763	35,680
April 1st	35,414,073	527,682	145,475	942,397	755,094	8,187,790	13,640,795	1,276,016	1,116,545	4,077,218	4,628,990	36,399	43,776	35,896
July 1st	35,535,348	528,386	145,915	942,209	754,700	8,210,533	13,680,425	1,280,912	1,120,639	4,108,416	4,646,462	36,817	43,867	36,067
October 1st	35,664,652	528,731	146,277	942,840	755,076	8,230,922	13,729,236	1,285,437	1,124,432	4,132,646	4,671,806	36,951	44,067	36,231
2015														
January 1st	35,689,014	528,825	146,253	942,404	754,866	8,233,395	13,730,752	1,288,862	1,126,913	4,145,224	4,674,209	36,840	44,121	36,350
April 1st	35,734,156	528,631	146,319	941,045	754,210	8,238,013	13,747,999	1,291,058	1,128,274	4,159,628	4,681,391	36,989	44,189	36,410
July 1st	35,832,513	528,815	146,791	941,545	753,944	8,254,912	13,789,597	1,295,422	1,131,150	4,177,527	4,694,699	37,289	44,214	36,608
October 1st	35,961,311	529,469	147,238	943,690	754,499	8,274,644	13,846,162	1,300,749	1,135,977	4,194,449	4,715,872	37,380	44,417	36,765
2016														
January 1st	36,017,869	529,705	147,619	944,454	755,036	8,283,266	13,868,070	1,306,097	1,139,371	4,206,927	4,718,558	37,378	44,476	36,912
April 1st	36,122,379	529,828	148,279	946,320	756,480	8,298,189	13,914,611	1,311,351	1,143,311	4,221,311	4,733,532	37,606	44,576	36,985
July 1st	36,264,604	530,305	149,472	948,618	757,384	8,321,888	13,976,320	1,318,115	1,148,588	4,236,376	4,757,658	38,086	44,617	37,177
October 1st	36,415,721	530,618	150,099	951,345	758,606	8,344,608	14,053,658	1,323,550	1,153,590	4,250,816	4,778,963	38,170	44,406	37,292
2017														
January 1st	36,474,968	530,097	150,271	950,990	758,198	8,351,714	14,084,797	1,327,883	1,156,342	4,261,116	4,783,461	38,209	44,452	37,438
April 1st	36,560,776	529,204	150,769	952,016	758,148	8,366,022	14,124,305	1,331,960	1,159,549	4,272,398	4,795,891	38,273	44,584	37,657
July 1st	36,708,083	528,817	152,021	953,869	759,655	8,394,034	14,193,384	1,338,109	1,163,925	4,286,134	4,817,160	38,459	44,520	37,996
October 1st	36,885,049	528,430	152,784	957,600	760,868	8,425,996	14,279,196	1,343,371	1,168,057	4,306,039	4,841,078	38,669	44,718	38,243
2018														
January 1st	36,963,854	527,613	152,768	957,470	760,744	8,439,925	14,318,750	1,346,993	1,169,752	4,318,772	4,849,442	38,825	44,597	38,203
April 1st	37,067,011	525,983	153,116	958,400	761,214	8,455,402	14,374,084	1,348,809	1,171,240	4,334,025	4,862,610	38,936	44,736	38,456

Note: Estimates are final postcensal up to July 1, 2013, updated postcensal from October 1, 2013 to April 1, 2017 and preliminary postcensal from July 1, 2017.
Source: Statistics Canada, Demography Division.

Table 1.2
Quarterly population estimates, Canada, provinces and territories - Total growth in percentage

	Canada	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
	percent													
2011														
July to September	0.37	0.16	0.32	0.08	0.02	0.30	0.40	0.33	0.43	0.44	0.47	0.37	0.09	0.47
October to December	0.19	0.06	0.05	-0.04	0.08	0.16	0.15	0.35	0.40	0.52	0.12	0.29	0.13	0.24
2012														
January to March	0.24	-0.10	0.21	-0.02	-0.04	0.19	0.22	0.30	0.40	0.65	0.16	0.12	0.11	0.53
April to June	0.37	0.14	0.14	0.03	0.11	0.33	0.35	0.36	0.60	0.75	0.29	1.05	-0.12	0.25
July to September	0.38	0.16	0.08	0.00	-0.01	0.22	0.39	0.35	0.55	0.76	0.43	0.51	0.13	0.51
October to December	0.16	0.02	-0.14	-0.04	-0.09	0.11	0.11	0.31	0.30	0.57	0.06	-0.19	0.13	0.41
2013														
January to March	0.24	0.02	-0.06	-0.11	-0.06	0.16	0.21	0.24	0.32	0.72	0.18	-0.20	0.29	0.10
April to June	0.38	-0.03	0.20	-0.05	0.01	0.31	0.35	0.31	0.55	0.92	0.29	0.54	-0.13	0.99
July to September	0.39	0.19	0.10	0.00	-0.02	0.23	0.39	0.31	0.42	0.80	0.51	-0.25	-0.12	0.60
October to December	0.13	0.03	0.02	0.01	0.01	0.07	0.06	0.26	0.30	0.53	0.06	-0.19	0.10	0.15
2014														
January to March	0.23	-0.17	0.07	-0.08	-0.06	0.14	0.18	0.25	0.33	0.64	0.27	0.71	0.03	0.60
April to June	0.34	0.13	0.30	-0.02	-0.05	0.28	0.29	0.38	0.37	0.76	0.38	1.14	0.21	0.48
July to September	0.36	0.07	0.25	0.07	0.05	0.25	0.36	0.35	0.34	0.59	0.54	0.36	0.45	0.45
October to December	0.07	0.02	-0.02	-0.05	-0.03	0.03	0.01	0.27	0.22	0.30	0.05	-0.30	0.12	0.33
2015														
January to March	0.13	-0.04	0.05	-0.14	-0.09	0.06	0.13	0.17	0.12	0.35	0.15	0.40	0.15	0.16
April to June	0.27	0.03	0.32	0.05	-0.04	0.20	0.30	0.34	0.25	0.43	0.28	0.81	0.06	0.54
July to September	0.36	0.12	0.30	0.23	0.07	0.24	0.41	0.41	0.43	0.40	0.45	0.24	0.46	0.43
October to December	0.16	0.04	0.26	0.08	0.07	0.10	0.16	0.41	0.30	0.30	0.06	-0.01	0.13	0.40
2016														
January to March	0.29	0.02	0.45	0.20	0.19	0.18	0.34	0.40	0.35	0.34	0.32	0.61	0.22	0.20
April to June	0.39	0.09	0.80	0.24	0.12	0.29	0.44	0.51	0.46	0.36	0.51	1.27	0.09	0.52
July to September	0.42	0.06	0.42	0.29	0.16	0.27	0.55	0.41	0.43	0.34	0.45	0.22	-0.47	0.31
October to December	0.16	-0.10	0.11	-0.04	-0.05	0.09	0.22	0.33	0.24	0.24	0.09	0.10	0.10	0.39
2017														
January to March	0.23	-0.17	0.33	0.11	-0.01	0.17	0.28	0.31	0.28	0.26	0.26	0.17	0.30	0.58
April to June	0.40	-0.07	0.83	0.19	0.20	0.33	0.49	0.46	0.38	0.32	0.44	0.48	-0.14	0.90
July to September	0.48	-0.07	0.50	0.39	0.16	0.38	0.60	0.39	0.35	0.46	0.50	0.54	0.44	0.65
October to December	0.21	-0.15	-0.01	-0.01	-0.02	0.17	0.28	0.27	0.15	0.30	0.17	0.40	-0.27	-0.10
2018														
January to March	0.28	-0.31	0.23	0.10	0.06	0.18	0.39	0.13	0.13	0.35	0.27	0.29	0.31	0.66

Note: Total growth is final up to June 2013, updated from July 2013 to March 2017 and preliminary from April 2017.
Source: Statistics Canada, Demography Division.

Table 1.3
Quarterly population estimates, Canada, provinces and territories - Total growth

	Canada	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
	number													
2011														
July to September	126,547	837	458	791	170	23,772	53,596	4,031	4,545	16,855	21,160	131	40	161
October to December	67,062	337	79	-359	578	12,989	19,659	4,299	4,271	19,662	5,306	104	56	81
2012														
January to March	84,665	-503	303	-196	-305	14,963	29,715	3,747	4,325	24,929	7,412	44	48	183
April to June	129,491	742	202	238	804	26,526	47,188	4,460	6,528	29,118	13,273	377	-51	86
July to September	130,824	846	115	-10	-39	18,055	51,877	4,399	5,996	29,789	19,375	186	56	179
October to December	55,126	122	-204	-398	-677	9,276	14,636	3,909	3,269	22,451	2,610	-67	55	144
2013														
January to March	83,005	126	-84	-1,032	-462	13,079	27,790	3,059	3,523	28,501	8,416	-74	127	36
April to June	132,870	-145	291	-454	111	25,015	47,749	3,956	6,019	36,454	13,390	195	-59	348
July to September	136,739	1,026	142	14	-181	18,891	52,538	3,936	4,677	32,045	23,578	-89	-52	214
October to December	45,276	170	34	123	42	5,779	8,505	3,270	3,330	21,286	2,711	-68	42	52
2014														
January to March	79,688	-913	101	-789	-477	11,789	23,998	3,222	3,713	25,937	12,620	258	13	216
April to June	121,275	704	440	-188	-394	22,743	39,630	4,896	4,094	31,198	17,472	418	91	171
July to September	129,304	345	362	631	376	20,389	48,811	4,525	3,793	24,230	25,344	134	200	164
October to December	24,362	94	-24	-436	-210	2,473	1,516	3,425	2,481	12,578	2,403	-111	54	119
2015														
January to March	45,142	-194	66	-1,359	-656	4,618	17,247	2,196	1,361	14,404	7,182	149	68	60
April to June	98,357	184	472	500	-266	16,899	41,598	4,364	2,876	17,899	13,308	300	25	198
July to September	128,798	654	447	2,145	555	19,732	56,565	5,327	4,827	16,922	21,173	91	203	157
October to December	56,558	236	381	764	537	8,622	21,908	5,348	3,394	12,478	2,686	-2	59	147
2016														
January to March	104,510	123	660	1,866	1,444	14,923	46,541	5,254	3,940	14,384	14,974	228	100	73
April to June	142,225	477	1,193	2,298	904	23,699	61,709	6,764	5,277	15,065	24,126	480	41	192
July to September	151,117	313	627	2,727	1,222	22,720	77,338	5,435	5,002	14,440	21,305	84	-211	115
October to December	59,247	-521	172	-355	-408	7,106	31,139	4,333	2,752	10,300	4,498	39	46	146
2017														
January to March	85,808	-893	498	1,026	-50	14,308	39,508	4,077	3,207	11,282	12,430	64	132	219
April to June	147,307	-387	1,252	1,853	1,507	28,012	69,079	6,149	4,376	13,736	21,269	186	-64	339
July to September	176,966	-387	763	3,731	1,213	31,962	85,812	5,262	4,132	19,905	23,918	210	198	247
October to December	78,805	-817	-16	-130	-124	13,929	39,554	3,622	1,695	12,733	8,364	156	-121	-40
2018														
January to March	103,157	-1,630	348	930	470	15,477	55,334	1,816	1,488	15,253	13,168	111	139	253

Note: Total growth is final up to June 2013, updated from July 2013 to March 2017 and preliminary from April 2017.
Source: Statistics Canada, Demography Division.

Table 2
Quarterly population estimates and factors of demographic growth - Canada

	Population at beginning period	Natural increase	Net interprovincial migration	Net international migration	Total net migration	Total growth	Total growth rate
	number						percent
2011							
July to September	34,342,780	43,828	0	82,719	82,719	126,547	0.37
October to December	34,469,327	30,831	0	36,231	36,231	67,062	0.19
2012							
January to March	34,536,389	27,101	0	57,564	57,564	84,665	0.24
April to June	34,621,054	35,580	0	93,911	93,911	129,491	0.37
July to September	34,750,545	42,836	0	87,988	87,988	130,824	0.38
October to December	34,881,369	29,756	0	25,370	25,370	55,126	0.16
2013							
January to March	34,936,495	22,702	0	60,303	60,303	83,005	0.24
April to June	35,019,500	34,657	0	98,213	98,213	132,870	0.38
July to September	35,152,370	41,836	0	94,903	94,903	136,739	0.39
October to December	35,289,109	28,790	0	16,486	16,486	45,276	0.13
2014							
January to March	35,334,385	22,799	0	56,889	56,889	79,688	0.23
April to June	35,414,073	33,887	0	87,388	87,388	121,275	0.34
July to September	35,535,348	41,238	0	88,066	88,066	129,304	0.36
October to December	35,664,652	26,034	0	-1,672	-1,672	24,362	0.07
2015							
January to March	35,689,014	19,203	0	25,939	25,939	45,142	0.13
April to June	35,734,156	32,219	0	66,138	66,138	98,357	0.27
July to September	35,832,513	40,495	0	88,303	88,303	128,798	0.36
October to December	35,961,311	26,022	0	30,536	30,536	56,558	0.16
2016							
January to March	36,017,869	20,363	0	84,147	84,147	104,510	0.29
April to June	36,122,379	31,704	0	110,521	110,521	142,225	0.39
July to September	36,264,604	40,020	0	111,097	111,097	151,117	0.42
October to December	36,415,721	24,683	0	34,564	34,564	59,247	0.16
2017							
January to March	36,474,968	16,781	0	69,027	69,027	85,808	0.23
April to June	36,560,776	29,927	0	117,380	117,380	147,307	0.40
July to September	36,708,083	38,651	0	138,315	138,315	176,966	0.48
October to December	36,885,049	23,757	0	55,048	55,048	78,805	0.21
2018							
January to March	36,963,854	15,037	0	88,120	88,120	103,157	0.28
April to June	37,067,011	..	..	..	..	..	..

.. not available for a specific reference period

Note: See "Data quality, concepts and methodology — Explanatory notes for the tables" section.

Source: Statistics Canada, Demography Division.

Table 3
Quarterly estimates of demographic components - Canada

	Natural increase		Net interprovincial migration		Net international migration				
	Births	Deaths	In-migrants	Out-migrants	Immigrants	Emigrants	Returning emigrants	Net temporary emigrants	Net non-permanent residents
	number								
2011									
July to September	100,674	56,846	89,862	89,862	71,876	21,067	13,864	5,435	23,481
October to December	91,731	60,900	55,322	55,322	59,608	14,245	6,005	4,423	-10,714
2012									
January to March	91,145	64,044	69,238	69,238	55,587	13,299	6,043	4,278	13,511
April to June	95,290	59,710	90,003	90,003	73,044	13,293	10,978	4,278	27,460
July to September	101,178	58,342	85,820	85,820	66,927	19,684	15,026	5,317	31,036
October to December	94,256	64,500	47,531	47,531	62,334	12,938	5,723	4,284	-25,465
2013									
January to March	90,860	68,158	62,699	62,699	58,256	13,803	5,566	4,414	14,698
April to June	95,313	60,656	96,253	96,253	75,639	13,669	10,703	4,394	29,934
July to September	100,839	59,003	81,855	81,855	65,338	20,072	16,139	5,184	38,682
October to December	93,311	64,521	52,761	52,761	59,789	14,500	5,580	4,384	-29,999
2014									
January to March	91,721	68,922	67,097	67,097	64,472	14,752	5,449	4,417	6,137
April to June	96,017	62,130	102,756	102,756	78,307	14,820	10,008	4,430	18,323
July to September	101,767	60,529	79,966	79,966	65,588	22,230	16,085	5,360	33,983
October to December	93,973	67,939	51,170	51,170	52,044	14,248	6,015	4,265	-41,218
2015									
January to March	92,092	72,889	74,452	74,452	51,121	15,148	5,509	4,385	-11,158
April to June	96,544	64,325	108,765	108,765	72,088	15,278	11,498	4,403	2,233
July to September	102,282	61,787	87,901	87,901	78,899	22,306	16,085	5,359	20,984
October to December	94,374	68,352	47,708	47,708	69,740	14,297	6,015	4,265	-26,657
2016									
January to March	93,276	72,913	70,384	70,384	86,245	15,206	5,509	4,386	11,985
April to June	97,584	65,880	98,130	98,130	88,289	15,335	11,498	4,404	30,473
July to September	103,718	63,698	92,800	92,800	68,239	22,347	16,085	5,359	54,479
October to December	95,296	70,613	47,366	47,366	53,611	14,327	6,015	4,266	-6,469
2017									
January to March	93,487	76,706	73,668	73,668	72,795	15,237	5,509	4,386	10,346
April to June	97,411	67,484	105,518	105,518	78,021	15,368	11,498	4,403	47,632
July to September	103,730	65,079	80,964	80,964	70,132	22,347	16,085	5,359	79,804
October to December	95,945	72,188	51,159	51,159	65,539	14,327	6,015	4,266	2,087
2018									
January to March	93,944	78,907	71,463	71,463	79,951	15,237	5,509	4,386	22,283

Note: See "Data quality, concepts and methodology — Explanatory notes for the tables" section.
Source: Statistics Canada, Demography Division.

Table 4
Quarterly estimates of interprovincial migrants by province or territory of origin and destination, Canada, January to March 2018

	Destination												
Origin	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
	number												
N.L.	...	52	311	138	161	696	25	63	934	163	4	44	0
P.E.I.	60	...	142	91	26	418	0	15	125	62	13	5	0
N.S.	196	48	...	498	228	1,555	64	57	774	383	19	36	8
N.B.	124	173	649	...	408	883	53	18	494	145	0	0	18
Que.	97	53	151	361	...	4,405	81	89	468	512	21	21	52
Ont.	511	294	1,403	1,046	3,232	...	719	568	3,689	3,126	93	40	229
Man.	31	13	124	87	105	1,692	...	668	1,126	1,046	5	47	30
Sask.	20	13	89	63	104	1,238	478	...	2,992	1,186	34	10	0
Alta.	329	98	621	520	635	4,219	628	1,688	...	6,073	103	248	41
B.C.	52	28	357	296	638	3,495	435	465	6,065	...	159	63	13
Y.T.	16	0	46	0	0	111	0	19	133	70	...	25	16
N.W.T.	21	6	32	0	6	141	29	38	246	84	12	...	4
Nvt.	27	0	31	10	28	121	4	13	19	12	0	33	...
In-migrants	1,484	778	3,956	3,110	5,571	18,974	2,516	3,701	17,065	12,862	463	572	411
Out-migrants	2,591	957	3,866	2,965	6,311	14,950	4,974	6,227	15,203	12,066	436	619	298
Net	-1,107	-179	90	145	-740	4,024	-2,458	-2,526	1,862	796	27	-47	113
Total number of migrants:							**71,463**						

... not applicable

Note: Preliminary estimates based on data from the Canada child benefit (CCB) program (formerly Canada Child Tax Benefit (CCTB)) and $_{A}F$ factors calculated using 2013/2014, 2014/2015 and 2015/2016 tax file data from Canada Revenue Agency.

Source: Statistics Canada, Demography Division.

Data quality, concepts and methodology

Methodology

This section describes the concepts, data sources and methodology used to produce the population estimates. Population estimates are produced to measure the population counts according to various characteristics and geographies between two censuses. The demographic estimates are the official population estimates at the national, provincial and territorial levels.

Postcensal estimates are based on the 2011 Census.

Population Estimates

Estimates of the total population

Types of estimates

Population estimates can be either intercensal or postcensal. Intercensal estimates are produced using the counts from two consecutive censuses adjusted for census net undercoverage (CNU)[1] and postcensal estimates. The production of intercensal estimates involves updating the postcensal estimates using the counts from a new census adjusted for CNU.[1]

Postcensal estimates are produced using data from the most recent census adjusted for CNU[1] and the components of demographic growth. In terms of timeliness, postcensal estimates are more up-to-date than data from the most recent census adjusted for CNU,[1] but as they get farther from the date of that census, they become more variable.

Levels of estimates

The production of the population estimates between censuses entails the use of data from administrative files or surveys. The quality of population estimates therefore depends on the availability of a number of administrative data files that are provided to Statistics Canada by Canadian and foreign government departments. Since some components are not available until several months after the reference date, three kinds of postcensal estimates are produced preliminary postcensal (PP), updated postcensal (PR) and final postcensal (PD). The time lag between the reference date and the release date is three months for preliminary estimates and two to three years for final estimates. Though it requires more vigilance on the part of users, the production of three successive series of postcensal estimates is the strategy that best satisfies the need for both timeliness and accuracy of the estimates. All tables indicate the level of the estimates they contain.

Calculation of postcensal population estimates

Population estimates – preliminary, updated and final – are produced by the component method. This method consists of taking the population figures from the most recent census, adjusted for the CNU[1] (census undercoverage minus census overcoverage), and adding or subtracting the number of births, deaths, and components of international and interprovincial migration.

A. Provincial / territorial estimates of total population

Population estimates are produced for the provinces and territories first; then they are summed to obtain an estimate of the population of Canada.

The component-method formula for estimating the total provincial / territorial populations is as follows:

$$P_{(t+i)} = P_{(t)} + B_{(t,t+i)} - D_{(t,t+i)} + I_{(t,t+i)} - \left[E_{(t,t+i)} + \Delta TE_{(t,t+i)} \right] + RE_{(t,t+i)} + \Delta NPR_{(t,t+i)} + \Delta \text{Ninter}_{(t,t+i)} - \text{Resid}_{(t,t+i)}$$

where, for each province and territory:

(t,t+i)	interval between times t and t+i;
$P_{(t+i)}$	estimate of the population at time t+i;
$P_{(t)}$	base population at time t (census adjusted for (CNU)[1] or most recent estimate);
B	number of births;
D	number of deaths;
I	number of immigrants;
E	number of emigrants;
ΔTE	net temporary emigration;
RE	number of returning emigrants;
ΔNPR	net non-permanent residents;
ΔNinter	net interprovincial migration;
Resid	residual deviation (for intercensal estimates).

B. Levels of estimates

The difference between preliminary[2] and final postcensal population estimates lies in the timeliness of the components. When all the components are preliminary, the population estimate is described as preliminary postcensal (PP). When they are all final, the estimate is referred to as final postcensal (PD). Any other combination of levels is referred to as updated postcensal (PR).

Base population and components of demographic growth

A. Base population

The base populations are derived from the quinquennial censuses between 1971 and 2011. The population universe of the 2011[3] Census includes the following groups:

- Canadian citizens (by birth or by naturalization) and immigrants with a usual place of residence in Canada;
- Canadian citizens (by birth or by naturalization) and immigrants who are abroad either on a military base or attached to a diplomatic mission;
- Canadian citizens (by birth or by naturalization) and immigrants at sea or in port aboard merchant vessels under Canadian registry or Canadian government vessels;
- persons with a usual place of residence in Canada who are claiming refugee status and the family members living with them;
- persons with a usual place of residence in Canada who hold study permits and the family members living with them;
- persons with a usual place of residence in Canada who hold work permits and the family members living with them.

For census purposes, the last three groups are referred to as non-permanent residents (NPR). They have been included in the census universe since 1991 but foreign residents are not included. Foreign residents are persons who belong to the following groups:

- government representatives of another country attached to the embassy, high commission or other diplomatic body of that country in Canada, and members of their families living with them;
- members of the Armed Forces of another country who are stationed in Canada, and family members living with them;
- residents of another country visiting Canada temporarily (for example, a foreign visitor on vacation or on business, with or without a visitor's permit).

These base populations are adjusted as follows:

- adjustment of the population for CNU;
- addition of independent estimates for incompletely enumerated Indian reserves in 1991, 1996, 2001, 2006 and 2011;
- adjustment for early enumeration in 1991 and 1996 in parts of Northern Quebec, Newfoundland and Labrador, the Yukon and the Northwest Territories;
- addition of estimates of NPRs in 1971, 1976, 1981 and 1986. Since 1991, NPRs are included in the census universe;
- estimation of the July 1 base population by addition or subtraction of the components of growth between Census Day and June 30;
- demographic adjustment for old age population is an age structure adjustment of censal estimates for 2001, 2006 and 2011 by sex for each province and territory. These adjustments were performed from age 85 in 2001, from age 90 in 2006 and from age 95 in 2011.

Adjustment for the census net undercoverage (CNU)

The adjustment for CNU is important. CNU is the difference between the number of persons who should have been enumerated but were missed (undercoverage) and the number of persons who were enumerated but should not have been or who were counted more than once (overcoverage).

Coverage studies provide undercoverage estimates for the 1991, 1996 (www.statcan.gc.ca/c1996-r1996/tech-eng.htm), 2001 (www12.statcan.ca/english/census01/Products/Reference/tech_rep/coverage/index.cfm), 2006 (www12.statcan.gc.ca/census-recensement/2006/ref/rp-guides/rp/coverage-couverture/cov-couv_index-eng.cfm) and 2011 (www12.statcan.gc.ca/census-recensement/2011/ref/guides/98-303-x/index-eng.cfm) censuses at the provincial and territorial levels, and for the 1971, 1976, 1981 and 1986 censuses at the provincial level only. Estimates of overcoverage at the provincial and territorial levels are available only for the last five censuses (1991, 1996, 2001, 2006 and 2011). Overcoverage for previous censuses was estimated by assuming that the overcoverage-to-undercoverage ratio for each census between 1971 and 1986 was the same as in 1991. The CNU for the Yukon and the Northwest Territories prior to 1991 was estimated by assuming that the ratio between the CNU for each territory and the 10 provinces for each census between 1971 and 1986 was the same as in 1991.

For consistency, the 1991 Census undercoverage and overcoverage were revised in 1998 to take into account the methodological improvements made in the 1996 Census coverage studies. This revision altered CNU in all censuses between 1971 and 1986. Similarly, the 1996 Census undercoverage and overcoverage were revised in 2003.

B. Births and deaths

The numbers of births and deaths are derived directly from the vital statistics database of Statistics Canada's Health Statistics Division. Although Statistics Canada manages the National system of vital statistics, the central vital statistics registries of the provinces and territories are responsible for collecting and processing the information from those administrative files. Under provincial / territorial vital statistics statutes (or similar legislation), all live births and all deaths must be registered, and all provinces and territories provide this information to Statistics Canada.

The vital statistics universe closely parallels the census universe. Both universes include the births and deaths of all Canadians, immigrants and non-permanent residents (NPR) and exclude foreign residents.

Vital statistics by province or territory of residence are used to produce our final estimates of births and deaths. However, before 2011, the final estimates may differ from the data released by the Health Statistics Division due to the imputation of certain unknown values. In addition, for estimates of deaths, the age represents age at the beginning of the period (July 1st) and not the age at the time of occurrence, as with the Health Statistics Division data.

When there are no vital statistics, the number of births is estimated using fertility rates by the mother's age. The number of deaths is estimated by using mortality rates by age and sex. These methods are used to calculate preliminary[2] estimates.

Special treatment for preliminary[2] estimates for Quebec and British Columbia

Quebec and British Columbia provide their most recent estimates of births and deaths. The figures are used to produce preliminary[2] estimates. For the final estimates, the two provinces' births and deaths are derived from the vital statistics compiled by Health Statistics Division.

Levels of estimates

For information on the differences between preliminary[2] and final estimates, see sections **B. Births and Deaths**, above.

C. Immigration

Like the numbers of births and deaths, Canadian immigration statistics must be kept by law. In Canada, immigration is regulated by the Immigration and Refugee Protection Act (IRPA) of 2002. This statute superseded the Immigration Act, which was passed in 1976 and amended more than 30 times in the years thereafter. Immigration, Refugees and Citizenship Canada (IRCC) collects and processes immigrants' administrative files. It then provides Statistics Canada with information from Global Case Management System (GCMS) files. The information is used to estimate the number and characteristics of people granted permanent resident status by the federal government on a given date. For Demography Division, the terms immigrant and permanent resident are equivalent.

An immigrant is a person who is not a Canadian citizen by birth, but has been granted the right to live in Canada permanently by Canadian immigration authorities. The number of immigrants does not include persons born abroad to Canadian parents who are only temporarily outside the country.

Immigrants are usually counted on or after the date on which they are granted permanent resident status or the right to live in Canada.

Levels of estimates

The difference between preliminary[2] and final postcensal estimates lies in the timeliness of the source used to estimate this component. Since the GCMS files are continually being updated, new calculations are carried out each year to update the immigration estimates. Immigration estimates are preliminary the first year, updated the second year and final in the third year.

D. Net non-permanent residents

Like the numbers of births and deaths, Canadian immigration statistics must be kept by law. In Canada, the non-permanent residents (NPR) are regulated by the *Immigration and Refugee Protection Act* (IRPA) of 2002. This statute superseded the *Immigration Act*, which was passed in 1976 and amended more than 30 times in the years thereafter. Immigration, Refugees and Citizenship Canada (IRCC) collects and processes the administrative files of immigrants and NPRs in Canada. It then provides Statistics Canada with information from Global Case Management System (GCMS) files. The information is used to estimate the number and characteristics of people granted non-permanent resident status by the federal government.

NPRs are persons who are lawfully in Canada on a temporary basis under the authority of a temporary resident permit, along with members of their family living with them. NPRs include foreign workers, foreign students, the humanitarian population and other temporary residents. The humanitarian population includes refugee claimants

and temporary residents who are allowed to remain in Canada on humanitarian grounds and are not categorized as either foreign workers or foreign students. For Demography Division, the terms non-permanent resident and temporary resident are equivalent.

NPR estimates are based on the number of NPRs, not on the net. The number of people in IRCC's administrative system is estimated on a specific date in each period of observation. First, the end-of-period number of NPR is estimated, and then the start-of-period number of NPR is subtracted from that estimate. That yields the net number of NPR.

Anyone who received non-permanent resident status prior to the observation date is counted. For refugee claimants, the date of their application is used. Permit holders and refugee claimants are excluded from the population if their permit has expired, if they receive permanent resident status, or if they are deported. In addition, refugee claimants are excluded if their file has been inactive for two years.

Since GCMS files are continually being updated, the figures are recalculated each year until the estimates of net NPR are final.

Levels of estimates

The difference between preliminary[2] and final estimates lies in the timeliness of the source used to estimate this component. Since the GCMS files are continually being updated, the figures are recalculated each year to update the estimates of the net number of NPRs. Non-permanent resident (NPR) estimates are preliminary the first year and updated the following year. They become final two to three years after the reference year, when all other components are also final.

E. Emigration

The number of emigrants is estimated using data from the Office of Immigration Statistics, U.S. Department of Homeland Security, data collected by the Canada child benefit (CCB) program (formerly Canada child tax benefit (CCTB)), and data from the T1 Family File (T1FF).[4] The first source is used to estimate emigration to the United States. CCB data are used to estimate emigration to other countries. The estimates of the number of child emigrants have to be adjusted because the CCB is not universal and does not provide direct information on the number of adult emigrants. As a result, four adjustment factors are taken into account:

- incomplete coverage due to a delay in the receipt and processing of the files of children eligible for the CCB. Since it seems to take four years after the reference period for CCB administrative files to become complete, the adjustment is made when the estimates are used before this date. The factor is derived from the two-year ratios of emigrant children based on two versions of the CCB files;
- the program's partial coverage, that is, people who do not apply for the CCB or who are not eligible. This factor is obtained by comparing the estimated number of children in the population with the number of children in CCB files;
- the differential propensity to emigrate between children who are eligible for the CCB and children who are not. This factor is obtained by comparing the emigration rates of CCB-eligible children with the rates for all children (aged 0 to 17). This factor is calculated for each province and territory and is based on the last three available years of T1FF;[4]
- the differential propensity to emigrate between adults and children. This factor generates the emigration rate for the population aged 18 and over. It is obtained by (1) calculating the average ratio over three years of the adult and child emigration rates based on T1FF[4] data, (2) calculating the average ratio over three years of the adult and child emigration rates based on data from the Office of Immigration Statistics, U.S. Department of Homeland Security, and (3) taking the average of the two rates. This factor is calculated for Canada only.

The adult emigration rate is applied to the adult population. Adult emigration is distributed by province and territory using data from the T1FF[4] file. We calculate a ratio of the number of emigrant adults to the number of emigrant children from the T1FF[4] file. We then apply this ratio to the number of emigrant children from the CCB by province, which yields the number of adult emigrants whose provincial distribution will differ from that of the children.

The number of adult emigrants combined with the number of child emigrants (once adjusted for the coverage and differential emigration factors) generate the number of emigrants for the entire population.

Emigration is disaggregated by province and territory based on the number of child emigrants adjusted for coverage and differential emigration.

Please note that the estimates for the most recent periods are expected to be identical or very similar. In the absence of more up-to-date data sources, the assumption is made that levels remain similar.

Levels of estimates

The difference between preliminary[2] and final estimates lies in the timeliness of the sources used to estimate this component. The same estimation method is used.

F. Net temporary emigration

Some people leave Canada to live temporarily in another country while others who were temporarily outside of Canada return. The net result of those departures and returns is the component known as "net temporary emigration". Estimates of the number of departures are derived from the Reverse Record Check (RRC), the most important census coverage study. The RRC provides an estimate of the number of people who left Canada temporarily during an intercensal period and are still out of the country at the end of the period. Estimates of the number of returns are based on two sources: the census and Demography Division's estimates of returning emigrants. The census provides the number of people who were outside Canada at the time of the previous census and returned during the intercensal period. That number includes all returning emigrants. Then Demography Division's estimate of the returning emigrants component is subtracted to produce the number of returning temporary emigrants. The estimated numbers of departures (RRC) and returns (census and Demography Division) yield an estimate of net temporary emigration.

This estimate is for the whole intercensal period; it is disaggregated into estimates for each of the five years in the period and then into monthly estimates using a seasonal adjustment that is an average between zero seasonality and the seasonality of emigration.

Net temporary emigration is calculated first for the national level. It is then disaggregated by province or group of provinces based on RRC estimates of temporary emigration. For the Atlantic provinces and the territories, the estimate for the group is disaggregated on the basis of each province / territory's proportion of the group's total population.

Net temporary emigration can be estimated only for the intercensal period preceding the most recent census.

Net temporary emigration in the current period is assumed to be the same as in the previous period for each province and territory.

Levels of estimates

The difference between preliminary[2] and final estimates lies in the timeliness of the emigration estimate used to calculate the seasonal adjustment for the net temporary emigration. The same estimation method is used.

G. Returning emigrants

A returning emigrant is a person who returns to Canada after having been classified as an emigrant. In a manner similar to the procedure used to calculate the number of emigrants, data from the Canada child benefit (CCB) file (formerly Canada child tax benefit (CCTB)) from Canada Revenue Agency (CRA) and T1FF[4] file are used to estimate the number of returning emigrants. Adjustment factors are applied to compensate for the fact that the CCB program is not universal, and an adult/child ratio is used to estimate the number of adult returning emigrants. As a result, four adjustment factors are used to take into account:

- incomplete coverage due to a delay in the receipt and processing of the files of children eligible for the CCB. Since it seems to take four years after the reference period for CCB administrative files to become complete, the adjustment is made when the estimates are used before this date. The factor is derived from the two-year ratios of returning emigrant children based on two versions of the CCB files;

- the program's partial coverage, that is, people who do not apply for the CCB or who are not eligible. This factor is obtained by comparing the estimated number of children in the population with the number of children in CCB files;
- the differential propensity to emigrate between children who are eligible for the CCB and children who are not. This factor is obtained by comparing the emigration rates of CCB-eligible children with the rates for all children (aged 0 to 17). This factor is calculated for each province and territory and is based on the last three available years of T1FFs;[4]
- the adult/child ratio, which is based on the 2011 National Household Survey.

Please note that the estimates for the most recent periods are expected to be identical or very similar. In the absence of more up-to-date data sources, the assumption is made that levels remain similar.

Levels of estimates

The difference between preliminary[2] and final estimates lies in the timeliness of the sources used to estimate this component. The same estimation method is used.

H. Interprovincial migration

Interprovincial migration represents movements from one province or territory to another, involving a change in usual place of residence. As is the case for emigration, there is no provision for recording interprovincial migration in Canada. Consequently, such movements have to be estimated using data from the Canada child benefit (CCB) (formerly Canada child tax benefit (CCTB)) of Canada Revenue Agency (CRA) and T1FF.[4]

Final estimates of interprovincial migration are obtained by comparing addresses indicated on personal income tax returns over two consecutive tax years. However, the migration status of tax filers' dependants has to be imputed. An adjustment is also required to take into account migrants who do not file income tax returns. From 2001/2002 to 2005/2006, the adjustment was slightly modified (for further information, see Wilkinson, 2004) (www.statcan.gc.ca/pub/91f0015m/91f0015m2004006-eng.pdf). From 2006/2007, this adjustment has been slightly modified (Cyr, 2008 – Internal document).

Since income tax returns are not available at the time preliminary estimates are produced, the estimation of preliminary[2] interprovincial migration is based on CCB administrative files, which provide counts of child migrants (aged 0 to 17) registered to the program. The estimates have to be adjusted later for children who are not registered to the CCB program. Finally, the number of adult migrants is calculated using the number of child migrants and factors derived from the T1FF.[4] As a result, three adjustment factors are used to take into account:

- the program's partial coverage, that is, people who are not registered to the CCB program. This factor is obtained by comparing the estimated number of children in the population with the number of children in CCB files;
- the differential propensity to migrate between children who are registered to the CCB program and children who are not. This factor is obtained by comparing the out-migration rates of children registered to the CCB program with the rates for all children (aged 0 to 17). This factor is calculated for each province and territory and is based on the last available year of T1FF;[4]
- the differential propensity to migrate between adults and children. This factor generates the out-migration rate of the population aged 18 and over for each province / territory of origin and destination. It is obtained by calculating the ratio of the central migration rate for adults to the rate for children. It is estimated using data from the last three available years of T1FF.[4]

The adult migration rate is then applied to the estimated adult population. The number of adult migrants is then added to the number of child migrants to produce the number of interprovincial migrants for the entire population.

Since 2015, the method to estimate the interprovincial migration has been modified. This new method is applied from July 2011 onward. In order to reduce the differences between the preliminary annual series (which was derived from the sum of 12 monthly migration matrices) and the final annual series, CCB microdata have been used. Using microdata is allowing estimating migration for various periods (monthly, quarterly and annually). It also allows improving the comparability between preliminary and final estimates. Final annual estimates (T1FF)

are now distributed by quarter on the basis of preliminary quarterly estimates derived from CCB microdata. It is important to note that, as a result of using CCB microdata, it is not possible to add the quarterly interprovincial in-migrants and out-migrants estimates to get the annual estimates. It is however possible to add the quarterly net interprovincial migration estimates to get the annual estimates.

Levels of estimates

For information on the differences between preliminary[2] and final estimates of total interprovincial migration, see section **H. Interprovincial migration** above.

Intercensal population estimates

Intercensal estimates – population estimates for reference dates between two censuses – are produced following each census. They reconcile previous postcensal estimates with the new census counts.

There are two main steps in the production of intercensal estimates:

- calculation of the error of closure;
- linear distribution of the error of closure.

The error of closure is defined as the difference between the postcensal population estimates on Census Day and the population enumerated in that census adjusted for CNU.[1]

The error of closure is spread uniformly over the intercensal period of days within each month.

Quality of demographic data

The estimates contain certain inaccuracies stemming from two types of errors:

- errors in the census data;
- imperfections in other data sources and the method used to estimate the components.

Census data

A. Coverage, response and imputation errors

The errors attributable to census data can be divided into two groups: response and processing errors, and coverage errors. The first group implies non-response error, misinterpretation by respondents, incorrect coding and non-response imputation. Errors in the second group primarily result from undercoverage and, to a lesser extent, overcoverage. It should be noted that both types of errors are intrinsic to any survey data.

The coverage errors occur when dwellings and/or individuals are missed, incorrectly included (except for the 2006 and 2011 censuses, where people incorrectly included were not considered in the Census Overcoverage Study) or counted more than once. Following each census, Statistics Canada undertakes coverage studies to measure these errors. The main studies are the Reverse Record Check Survey (RRC) and the Census Overcoverage Study (COS). Based on these studies, estimates of census undercoverage and overcoverage are produced. Demography Division adjusts the population enumerated in the census by province and territory using these estimates.

When creating base populations, the Estimates Program corrects the census populations only for coverage errors. This correction, which is based on the findings of coverage studies, is primarily subject to sampling errors, and to a lesser extent, processing errors. Statistical tests indicate that coverage adjustments improve the quality of census data. The Estimates Program uses the estimates from coverage studies for the provinces and territories. However, given the size of the samples in these studies, estimates by age and sex are modelled. Furthermore, it is assumed that the coverage rates estimated for a province or territory apply to the regions within that geographic area. Prior to 1991, the Estimates Program used census data that was unadjusted for coverage errors. Coverage studies had been done to measure undercoverage, but none measured overcoverage. Following the decision to integrate a correction for the coverage to the enumerated population in 1991, the Program had to revise the population estimates for the period from 1971 to 1986. The correction is based on the findings of the coverage studies conducted during this period and on hypotheses regarding the ratio between the overcoverage and undercoverage levels based on the findings of subsequent coverage studies.

The corrections to the census data due to CNU improved, in general, the quality of the estimates by compensating for the differential undercoverage by age, sex and by province/territory across censuses.

Table D1
Estimated census net undercoverage, Canada, provinces and territories, 2001, 2006 and 2011 Censuses

Geography	Census population	Census net undercoverage	Incompletely enumerated Indian reserves	Adjusted population	Rate
	A	B	C	D=A+B+C	(B+C)/D*100
	number				percent
2011[1]					
Canada	**33,476,688**	**759,125**	**37,392**	**34,273,205**	**2.32**
Newfoundland and Labrador	514,536	10,192	0	524,728	1.94
Prince Edward Island	140,204	3,386	0	143,590	2.36
Nova Scotia	921,727	21,911	0	943,638	2.32
New Brunswick	751,171	3,930	0	755,101	0.52
Quebec	7,903,001	73,240	16,882	7,993,123	1.13
Ontario	12,851,821	369,874	14,926	13,236,621	2.91
Manitoba	1,208,268	21,698	608	1,230,574	1.81
Saskatchewan	1,033,381	29,580	768	1,063,729	2.85
Alberta	3,645,257	128,584	4,094	3,777,935	3.51
British Columbia	4,400,057	91,280	114	4,491,451	2.03
Yukon	33,897	1,356	0	35,253	3.85
Northwest Territories	41,462	1,977	0	43,439	4.55
Nunavut	31,906	2,117	0	34,023	6.22
2006[1]					
Canada	**31,612,897**	**868,658**	**40,115**	**32,521,670**	**2.79**
Newfoundland and Labrador	505,469	5,046	0	510,515	0.99
Prince Edward Island	135,851	1,903	0	137,754	1.38
Nova Scotia	913,462	24,558	0	938,020	2.62
New Brunswick	729,997	16,059	0	746,056	2.15
Quebec	7,546,131	60,751	16,600	7,623,482	1.01
Ontario	12,160,282	465,824	15,391	12,641,497	3.81
Manitoba	1,148,401	34,330	0	1,182,731	2.90
Saskatchewan	968,157	22,594	739	991,490	2.35
Alberta	3,290,350	111,353	7,272	3,408,975	3.48
British Columbia	4,113,487	121,551	113	4,235,151	2.87
Yukon	30,372	1,805	0	32,177	5.61
Northwest Territories	41,464	1,620	0	43,084	3.76
Nunavut	29,474	1,264	0	30,738	4.11
2001[1]					
Canada	**30,007,094**	**924,430**	**34,539**	**30,966,063**	**3.10**
Newfoundland and Labrador	512,930	9,401	0	522,331	1.80
Prince Edward Island	135,294	1,325	0	136,619	0.97
Nova Scotia	908,007	24,521	0	932,528	2.63
New Brunswick	729,498	20,095	0	749,593	2.68
Quebec	7,237,479	140,232	12,648	7,390,359	2.07
Ontario	11,410,046	436,349	15,960	11,862,355	3.81
Manitoba	1,119,583	30,903	110	1,150,596	2.70
Saskatchewan	978,933	21,231	581	1,000,745	2.18
Alberta	2,974,807	69,857	4,977	3,049,641	2.45
British Columbia	3,907,738	164,542	263	4,072,543	4.05
Yukon	28,674	1,423	0	30,097	4.73
Northwest Territories	37,360	3,295	0	40,655	8.10
Nunavut	26,745	1,256	0	28,001	4.49

1. The levels and rates are based on the Reverse Record Check (RRC) and the Overcoverage Study and include non-permanent residents.

Source: Statistics Canada, Demography Division.

The adjustment also incorporates the results of a study on the estimates of the number of people living on incompletely enumerated Indian reserves to complete the corrections for coverage errors in the census. The results of the coverage studies contain mainly sampling errors.

These adjustments have a direct impact on:

- the error of closure and its distribution by age and sex within a province or a territory as well as by province/territory as the CNU[1] and its distribution vary from one census to another;

- within-cohort consistency of population estimates. If for example, the male cohort in age group 0 to 4 in 1981 was tracked up to the 2001 Census (unadjusted for CNU)[1] the age group 20 to 24 would be noticeably smaller in 2001 than the age group 15 to 19 in 1996. Since Canada receives many immigrants within these age groups, the opposite would be expected. However, only after adjustment for CNU,[1] the cohort size increases from 1996 to 2001.

For further information regarding the main coverage studies, please see the following document on Statistics Canada's web site: 1996 (www.statcan.gc.ca/c1996-r1996/tech-eng.htm), 2001 (www12.statcan.ca/english/census01/Products/Reference/tech_rep/coverage/index.cfm), 2006 (www12.statcan.gc.ca/census-recensement/2006/ref/rp-guides/rp/coverage-couverture/cov-couv_index-eng.cfm) and 2011 (www12.statcan.gc.ca/census-recensement/2011/ref/guides/98-303-x/index-eng.cfm) Census Technical Report on Coverage.

Components

Errors due to estimation methodologies and data sources other than the census can also be significant.

A. Births and deaths

Since the law requires the recording of vital statistics, the final estimates for births and deaths data meet very high standards. Nevertheless, since preliminary estimates are derived, they can be slightly different from final estimates.

B. Immigration and non-permanent residents

With respect to immigrants and non-permanent residents, Immigration, Refugees and Citizenship Canada (IRCC) administers special data files on both of these components. Since immigration is controlled by law, data on immigrants and NPRs are compiled upon arrival in Canada. These data represent only "legal" immigration and exclude illegal immigrants. Thus, for the "legal" part of international movement into Canada, the data are considered to be of high quality. However, some biases such as the difference between the stated province of intended residence at the time of arrival and the actual province of residence, may persist. Finally, since information provided by the Visitor Data System (VDS) from IRCC is not complete (age and sex of dependents, province of residence for certain groups of permit holders), estimates of NPRs are more prone to error than data on immigrants.

C. Emigration, returning emigration and net temporary emigration

Of all the demographic components that are used in the population estimates program, the emigration, returning emigration and net temporary emigration are the most difficult to estimate with precision. Canada does not have a complete border registration system. While immigration and non-permanent residents (NPRs) are well documented by the federal government, Statistics Canada has always used indirect techniques for the estimation of the number of persons leaving the country. For this reason, available statistics regarding these three components have historically been of a lower quality than other components.

Estimates of the number of emigrants and returning emigrants are both derived using Canada child benefit (CCB) data (formerly Canada child tax benefit (CCTB)) provided by Canada Revenue Agency (CRA). Estimates must be adjusted to take into account the incomplete coverage of the program and to derive the emigration and returning emigration of adults.

These adjustments and the delay in obtaining the data are the two main sources of errors. As current information on the number of persons living temporarily abroad does not exist, estimates are based on the Reverse Record Check (RRC) and the census. Estimates for the intercensal period, distributed equally among the five years, are maintained constant for the postcensal period. Moreover, assumptions were made to allow for the distribution of annual estimates to a quarterly level. Any geographical or quarterly variation may introduce error in the estimation of these components.

D. Interprovincial migration

Since July 1993, preliminary[2] interprovincial migration estimates have been based on Canada child benefit (CCB) files (formerly Canada child tax benefit (CCTB)). As this program covers only children, various adjustments must be done in order to derive the migration of adults. Consequently, preliminary CCB based estimates are subject to larger error than final estimates derived from Canada Revenue Agency (CRA) tax files.

Quality assessment

In order to assess the quality of our estimates, two evaluation measures are used: precocity errors and errors of closure.

A. Precocity error

The quality of preliminary estimates of components is analyzed using precocity errors. Precocity error is defined as the difference between preliminary and final estimate in terms of its relative proportion of the total population most up to date postcensal population estimate. It can be calculated for both population and component estimates.

The precocity error allows for useful comparisons between components, as well as between provinces and territories of different population size. Note that when compared to the total population for an area, the differences between preliminary and final estimates of the components are quite small. There are, however, differences in the amount of impact on the population estimates between components and between provinces and territories.

Generally speaking, net interprovincial migration yields the greatest precocity errors. This is the result of the use of different data sources for preliminary and final estimates. In most years and for most provinces/territories, births, deaths and immigration estimates yield the smallest precocity errors. For immigration estimates, this reflects the completeness of the data source and the availability of data for the more timely preliminary estimates. In the case of births and deaths, small precocity errors can be explained by the use of a different method (method of ratios) for preliminary estimates.

According to the analysis of the most recent precocity errors and assuming that the quality of the basic data remains constant, the present postcensal estimates should have an acceptable degree of reliability.

For more information on annual precocity error analysis, see publication 91-215-XWE 2017000 (Quality of demographic data section, http://www.statcan.gc.ca/pub/91-215-x/2017000/dq-qd-eng.htm).

Table D2
Quarterly precocity errors for components, Canada, provinces and territories

Year/Component	Canada	N.L.	P.E.I.	N.S.	N.B.	Que.	Ont.	Man.	Sask.	Alta.	B.C.	Y.T.	N.W.T.	Nvt.
	per thousand													
Births														
2013Q01	0.07	0.09	0.01	0.08	0.08	0.06	0.08	0.07	0.12	0.12	-0.01	0.30	0.53	0.23
2013Q02	0.06	0.07	0.08	0.18	-0.03	0.00	0.10	-0.10	0.15	0.17	-0.01	0.75	-0.32	-0.14
2013Q03	0.04	-0.16	0.17	0.04	0.01	0.00	0.08	-0.01	0.09	0.10	-0.01	0.47	0.30	-1.13
2013Q04	0.02	-0.08	-0.01	0.10	0.06	0.00	0.05	-0.05	0.01	0.02	-0.01	0.00	0.23	-0.17
Deaths														
2013Q01	0.07	-0.20	0.45	-0.08	0.13	0.03	0.14	0.07	-0.08	0.08	-0.01	-0.33	0.21	-0.06
2013Q02	0.04	0.11	-0.05	0.10	0.14	0.01	0.07	0.02	0.18	0.01	-0.01	-0.06	-0.21	0.06
2013Q03	0.03	0.09	0.15	-0.02	0.03	-0.02	0.05	0.18	0.04	0.03	-0.01	0.06	0.32	0.00
2013Q04	-0.01	-0.07	-0.19	-0.05	-0.08	0.00	0.01	0.06	-0.03	-0.03	-0.01	0.39	-0.14	-0.20
Immigration														
2016Q01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016Q02	-0.06	-0.03	-0.05	-0.05	-0.03	-0.03	-0.05	-0.13	-0.12	-0.10	-0.08	0.00	-0.02	0.00
2016Q03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2016Q04	0.06	0.03	0.05	0.06	0.03	0.03	0.05	0.13	0.12	0.11	0.08	0.00	0.00	0.00
Emigration														
2012Q03	-0.01	-0.16	-0.39	-0.12	0.11	0.05	-0.02	0.23	0.10	-0.05	-0.08	-0.25	-0.11	0.14
2012Q04	-0.04	-0.09	-0.19	-0.09	0.07	0.02	-0.05	0.07	0.02	0.03	-0.21	-0.19	-0.02	0.09
2013Q01	-0.12	-0.10	-0.19	-0.08	0.05	-0.02	-0.15	0.10	-0.03	-0.05	-0.38	-0.22	-0.07	0.09
2013Q02	-0.02	-0.06	0.04	0.03	0.03	0.00	-0.02	0.05	0.01	-0.05	-0.04	-0.22	0.09	0.09
Returning emigration														
2012Q03	-0.09	-0.02	-0.28	-0.03	0.07	-0.07	-0.12	-0.15	0.02	-0.15	-0.05	0.08	-0.11	0.06
2012Q04	0.00	0.00	-0.10	0.01	0.05	0.00	0.00	-0.02	0.03	-0.02	0.03	0.03	-0.07	0.00
2013Q01	0.00	0.00	-0.10	0.01	0.05	0.00	0.00	-0.02	0.02	-0.02	0.03	0.00	-0.07	0.00
2013Q02	0.01	0.02	-0.12	0.01	0.03	-0.01	0.01	-0.03	0.05	0.03	-0.01	0.08	-0.09	0.00
Net temporary emigration														
2012Q03	0.11	0.15	0.15	0.16	0.16	0.08	0.17	0.11	0.06	0.10	-0.01	0.06	0.11	0.06
2012Q04	0.08	0.11	0.11	0.12	0.11	0.06	0.12	0.08	0.04	0.07	-0.02	0.06	0.07	0.06
2013Q01	0.06	0.10	0.10	0.10	0.10	0.05	0.10	0.07	0.03	0.05	-0.05	0.06	0.05	0.06
2013Q02	0.02	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.05	0.06	0.02	0.00
Net non-permanent residents														
2012Q03	0.01	0.33	0.39	0.16	0.14	0.62	-0.34	0.13	0.22	0.10	-0.26	0.28	-0.60	0.20
2012Q04	0.02	-0.12	0.08	-0.07	-0.13	-0.05	0.31	-0.09	-0.11	-0.20	-0.38	0.03	0.44	-0.11
2013Q01	0.01	0.13	-0.30	-0.08	-0.19	0.05	-0.21	0.00	0.14	0.43	0.19	0.47	0.39	-0.06
2013Q02	-0.02	-0.19	0.91	-0.24	0.27	0.17	-0.57	0.05	0.19	0.79	0.50	-0.89	0.07	-0.17
In-migrants														
2015Q03	0.07	0.19	-0.18	-0.06	0.10	0.03	-0.01	0.09	0.17	0.51	-0.04	-0.78	1.18	2.16
2015Q04	0.03	0.06	-0.15	-0.07	0.12	0.01	-0.01	0.03	0.07	0.26	-0.03	0.11	0.88	1.82
2016Q01	0.05	0.21	-0.07	-0.08	0.11	0.01	-0.01	0.05	0.11	0.39	-0.05	0.27	1.87	4.63
2016Q02	0.08	0.50	0.03	-0.13	0.23	0.01	-0.01	0.10	0.12	0.55	-0.07	-0.32	1.17	4.73
Out-migrants														
2015Q03	0.07	0.36	1.59	0.42	0.77	0.04	0.04	0.31	-0.08	-0.26	0.14	5.26	2.04	2.49
2015Q04	0.03	0.22	0.99	0.19	0.30	0.01	0.02	0.17	-0.02	-0.16	0.08	2.22	1.62	1.77
2016Q01	0.05	0.48	1.10	0.33	0.46	0.01	0.03	0.25	0.00	-0.23	0.13	3.93	3.24	3.41
2016Q02	0.08	0.31	1.81	0.45	0.68	0.05	0.06	0.33	0.01	-0.36	0.16	5.56	2.60	4.35
Net interprovincial migration														
2015Q03	...	-0.17	-1.77	-0.48	-0.67	-0.01	-0.05	-0.23	0.24	0.77	-0.18	-6.03	-0.86	-0.33
2015Q04	...	-0.16	-1.14	-0.26	-0.18	0.00	-0.03	-0.15	0.09	0.41	-0.11	-2.11	-0.74	0.05
2016Q01	...	-0.27	-1.17	-0.41	-0.35	0.00	-0.04	-0.20	0.11	0.62	-0.18	-3.67	-1.37	1.22
2016Q02	...	0.19	-1.77	-0.58	-0.45	-0.04	-0.07	-0.23	0.10	0.91	-0.23	-5.88	-1.44	0.38

... not applicable

Source: Statistics Canada, Demography Division.

B. Error of closure

The error of closure measures the exactness of the final postcensal estimates. It is defined as the difference between the final postcensal population estimates on Census Day and the enumerated population of the most recent census adjusted for census net undercoverage (CNU[1]). A positive error of closure means that the postcensal population estimates have overestimated the population.

The error of closure comes from two sources: errors primarily due to sampling when measuring census coverage and errors related to the components of population growth over the intercensal period. For each five-year intercensal period, the error of closure can only be calculated following the release of census data and estimates of CNU.[1] The error of closure can be calculated for the total population of each province and territory as well as by age and sex.

Table D3 shows postcensal population estimates on May 10, 2011 and census counts adjusted for CNU[1] and the errors of closure for Canada, provinces and territories for 2001, 2006 and 2011.

For Canada as a whole, the error of closure was estimated at 171,115 or 0.50% in 2011. This is an increase over the errors for 2001 (0.16%) and 2006 (0.14%).

The population estimates overestimated the population of six provinces, two territories and Canada as a whole. Four provinces and two territories posted errors of closure greater than 1% or less than -1%. Of these jurisdictions, only Newfoundland and Labrador's estimated population differed from the adjusted census population by more than 2% (-2.09%). In 2006, two provinces and three territories posted errors of closure greater than 1% or less than -1%, while this was the case for three provinces and two territories in 2001.

By considering the variance in CNU, it is possible to identify errors of closure that are statistically significant. Table D3 shows the results of this analysis.

The error of closure is statistically significant for Canada, five provinces and one territory. This means that the population estimates significantly overestimated or underestimated the adjusted census population in these jurisdictions. As noted above, these results are due to both the sampling for census coverage studies and errors in the components of population growth over the intercensal period. Among these components, interprovincial migration and emigration are mostly associated with large errors of closure.

Table D3
Error of closure of the population estimates, Canada, provinces and territories, 2001, 2006 and 2011

Geography	Postcensal estimate on Census Day	Census adjusted for CNU[1]	Error of closure		CNU standard error[2]	t value[3]
	A	B	C=A-B	D=C/B*100	E	F=C/E
	number			%	number	
2011						
Canada	**34,444,320**	**34,273,205**	**171,115**	**0.50**	**57,546**	**2.97**
Newfoundland and Labrador	513,745	524,728	-10,983	-2.09	2,912	-3.77
Prince Edward Island	145,745	143,590	2,155	1.50	923	2.33
Nova Scotia	948,697	943,638	5,059	0.54	5,346	0.95
New Brunswick	756,630	755,101	1,529	0.20	3,335	0.46
Quebec	7,972,672	7,993,123	-20,451	-0.26	23,660	-0.86
Ontario	13,360,099	13,236,621	123,478	0.93	44,121	2.80
Manitoba	1,252,662	1,230,574	22,088	1.79	6,104	3.62
Saskatchewan	1,055,988	1,063,729	-7,741	-0.73	6,306	-1.23
Alberta	3,776,676	3,777,935	-1,259	-0.03	18,046	-0.07
British Columbia	4,548,383	4,491,451	56,932	1.27	19,494	2.92
Yukon	35,364	35,253	111	0.31	303	0.37
Northwest Territories	44,113	43,439	674	1.55	323	2.09
Nunavut	33,546	34,023	-477	-1.40	608	-0.78
2006						
Canada	**32,565,797**	**32,521,670**	**44,127**	**0.14**	**53,926**	**0.82**
Newfoundland and Labrador	508,881	510,515	-1,634	-0.32	2,710	-0.60
Prince Edward Island	137,748	137,754	-6	0.00	701	-0.01
Nova Scotia	933,827	938,020	-4,193	-0.45	4,885	-0.86
New Brunswick	748,785	746,056	2,729	0.37	3,105	0.88
Quebec	7,646,288	7,623,482	22,806	0.30	24,077	0.95
Ontario	12,664,181	12,641,497	22,684	0.18	41,363	0.55
Manitoba	1,176,919	1,182,731	-5,812	-0.49	6,469	-0.90
Saskatchewan	987,735	991,490	-3,755	-0.38	4,805	-0.78
Alberta	3,358,568	3,408,975	-50,407	-1.48	16,091	-3.13
British Columbia	4,299,225	4,235,151	64,074	1.51	16,591	3.86
Yukon	31,151	32,177	-1,026	-3.19	194	-5.29
Northwest Territories	42,165	43,084	-919	-2.13	236	-3.89
Nunavut	30,324	30,738	-414	-1.35	176	-2.35
2001						
Canada	**31,016,011**	**30,966,063**	**49,948**	**0.16**	**44,749**	**1.12**
Newfoundland and Labrador	533,712	522,331	11,381	2.18	1,782	6.39
Prince Edward Island	138,102	136,619	1,483	1.09	775	1.91
Nova Scotia	941,533	932,528	9,005	0.97	4,170	2.16
New Brunswick	754,180	749,593	4,587	0.61	3,555	1.29
Quebec	7,390,137	7,390,359	-222	0.00	21,033	-0.01
Ontario	11,873,643	11,862,355	11,288	0.10	33,472	0.34
Manitoba	1,149,561	1,150,596	-1,035	-0.09	5,423	-0.19
Saskatchewan	1,016,762	1,000,745	16,017	1.60	4,333	3.70
Alberta	3,051,245	3,049,641	1,604	0.05	11,308	0.14
British Columbia	4,068,196	4,072,543	-4,347	-0.11	15,598	-0.28
Yukon	29,737	30,097	-360	-1.20	372	-0.97
Northwest Territories	41,152	40,655	497	1.22	362	1.37
Nunavut	28,051	28,001	50	0.18	411	0.12

1. Census net undercoverage includes the incompletely enumerated Indian reserves.
2. Census net undercoverage excludes the incompletely enumerated Indian reserves.
3. An error of closure with a t value greater than 1.96 or less than -1.96 is statistically significant at the 95% confidence level.

Source: Statistics Canada, Demography Division.

Explanatory notes for the tables

Table D4
Quarterly population estimates and factors of demographic growth

Quarter	Population at beginning period	Natural increase	Net interprovincial migration	Net international migration	Total net migration	Total growth
Q3 2011	PD	D	D	D	D	D
Q4 2011	PD	D	D	D	D	D
Q1 2012	PD	D	D	D	D	D
Q2 2012	PD	D	D	D	D	D
Q3 2012	PD	D	D	D	D	D
Q4 2012	PD	D	D	D	D	D
Q1 2013	PD	D	D	D	D	D
Q2 2013	PD	D	D	D	D	D
Q3 2013	PD	D	D	R	R	R
Q4 2013	PR	D	D	R	R	R
Q1 2014	PR	R	D	R	R	R
Q2 2014	PR	R	D	R	R	R
Q3 2014	PR	R	D	R	R	R
Q4 2014	PR	R	D	R	R	R
Q1 2015	PR	R	D	R	R	R
Q2 2015	PR	R	D	R	R	R
Q3 2015	PR	R	D	R	R	R
Q4 2015	PR	R	D	R	R	R
Q1 2016	PR	R	D	R	R	R
Q2 2016	PR	R	D	R	R	R
Q3 2016	PR	R	R	R	R	R
Q4 2016	PR	R	R	R	R	R
Q1 2017	PR	R	R	R	R	R
Q2 2017	PR	P	P	P	P	P
Q3 2017	PP	P	P	P	P	P
Q4 2017	PP	P	P	P	P	P
Q1 2018	PP	P	P	P	P	P
Q2 2018	PP	..	..	..	..	..
Modified since[1]	..	..	..	..	..	..

.. not available for a specific reference period

1. Modified since indicates the quarter from which the data were revised since the last release. Last quarter's data were not modified as they are released for the first time.

Note: D: Final estimates. PD : Final postcensal estimates. R : Updated estimates. PR : Updated postcensal estimates. P : Preliminary estimates. PP : Preliminary postcensal estimates. Q1 : January to March. Q2 : April to June. Q3 : July to September. Q4 : October to December.

Table D5
Quarterly estimates of components of demographic growth

Quarter	Births	Deaths	In-migrants	Out-migrants	Immigrants	Emigrants	Returning emigrants	Net temporary emigrants	Net non-permanent residents
Q3 2011	D	D	D	D	D	D	D	D	D
Q4 2011	D	D	D	D	D	D	D	D	D
Q1 2012	D	D	D	D	D	D	D	D	D
Q2 2012	D	D	D	D	D	D	D	D	D
Q3 2012	D	D	D	D	D	D	D	D	D
Q4 2012	D	D	D	D	D	D	D	D	D
Q1 2013	D	D	D	D	D	D	D	D	D
Q2 2013	D	D	D	D	D	D	D	D	D
Q3 2013	D	D	D	D	D	R	R	R	R
Q4 2013	D	D	D	D	D	R	R	R	R
Q1 2014	R	R	D	D	D	R	R	R	R
Q2 2014	R	R	D	D	D	R	R	R	R
Q3 2014	R	R	D	D	D	R	R	R	R
Q4 2014	R	R	D	D	D	R	R	R	R
Q1 2015	R	R	D	D	D	R	R	R	R
Q2 2015	R	R	D	D	D	R	R	R	R
Q3 2015	R	R	D	D	D	R	R	R	R
Q4 2015	R	R	D	D	D	R	R	R	R
Q1 2016	R	R	D	D	D	R	R	R	R
Q2 2016	R	R	D	D	D	R	R	R	R
Q3 2016	R	R	R	R	D	R	R	R	R
Q4 2016	R	R	R	R	D	R	R	R	R
Q1 2017	R	R	R	R	R	R	R	R	R
Q2 2017	P	P	P	P	P	P	P	P	P
Q3 2017	P	P	P	P	P	P	P	P	P
Q4 2017	P	P	P	P	P	P	P	P	P
Q1 2018	P	P	P	P	P	P	P	P	P
Modified since[1]	..	..	..	..	..	..	..	..	..

.. not available for a specific reference period

1. Modified since indicates the quarter from which the data were revised since the last release. Last quarter's data were not modified as they are released for the first time.

Note: D : Final estimates. R : Updated estimates. P : Preliminary estimates. Q1 : January to March. Q2 : April to June. Q3 : July to September. Q4 : October to December.

Endnotes

1. In this case, the adjustment for the census net undercoverage also includes the incompletely enumerated Indian reserves (IEIR).
2. Unless otherwise noted, the term preliminary include both preliminary and updated estimates.
3. From 1991 to 2001 Census, "persons with a usual place of residence in Canada who hold Minister's permits (including extensions) and members of their families living with them" were included in the census universe.
4. The T1 family file (T1FF) is derived from the Canada Revenue Agency (CRA) T1 file by Income Statistics Division of Statistics Canada.

Appendix 1: Glossary

Census coverage
Census net undercoverage: Difference between undercoverage and overcoverage.

Overcoverage: Number of persons who should not have been counted in the census or who were counted more than once.

Undercoverage: Number of persons who were intended to be enumerated in a census but were not.

Components of demographic growth
Any of the classes of events generating population movement variations. Births, deaths and migrations are the components responsible for the variation since they alter the total population.

Emigrant
Canadian citizen or **immigrant** who has left Canada to establish a residence in another country, involving a change in usual place of residence. Emigration may be either temporary or permanent. Where the term is used alone, it references to a person's permanent emigration which involves severing residential ties with Canada and acquiring permanent residency in another country.

Error of closure
Difference between the **postcensal estimate** at the census date and the results of the census adjusted for **census net undercoverage** (including adjustment for incompletely enumerated Indian reserves).

Immigrant
Within the framework of this publication, the terms immigrant, landed immigrant and permanent resident are equivalent. An immigrant refers to a person who is or has ever been a landed immigrant (permanent resident) and who has been granted the right to live in Canada permanently by immigration authorities. Immigrants are either Canadian citizens by naturalization (the citizenship process) or permanent residents under Canadian legislation. Some immigrants have resided in Canada for a number of years, while others have arrived recently. Most immigrants are born outside Canada, but a small number are born in Canada. Also, children born in other countries to parents who are Canadian citizens that reside temporarily in another country are not included in the category as they become Canadian citizens at birth.

International migration
International migration represents movement of population between Canada and a foreign country which involves a change in the usual place of residence. A distinction is made with regard to **immigrants**, **emigrants**, **returning emigrants**, **net temporary emigration** and **net non-permanent residents**.

Interprovincial migration
Interprovincial migration represents all movements from one province or territory to another involving a change in the usual place of residence. A person who takes up residence in another province or territory is an **out-migrant** with reference to the province or territory of origin and an **in-migrant** with reference to the province or territory of destination.

Natural increase
Variation in the population size over a given period as a result of the difference between the numbers of births and deaths.

Net international migration
Net international migration is obtained according to the following formula:
Immigrants + **returning emigrants** + **net non-permanent residents**– (**emigrants** + **net temporary emigrants**).

Net interprovincial migration
Net interprovincial migration represents the difference between ***in-migrants*** and ***out-migrants*** for a given province or territory.

Net non-permanent residents
Net non-permanent residents represent the variation in the number of non-permanent residents between two dates.

Non-permanent residents
A non-permanent resident is a person who is lawfully in Canada on a temporary basis under the authority of a valid document (work permit, study permit, Minister's permit or refugee) issued for that person along with members of his family living with them. This group also includes individuals who seek refugee status upon or after their arrival in Canada and remain in the country pending the outcome of processes relative to their claim. Note that Immigration, Refugees and Citizenship Canada (IRCC) uses the term temporary resident rather than non-permanent resident.

Net temporary emigration
Net temporary emigration represents the variation in the number of temporary emigrants between two dates. Temporary emigration includes Canadian citizens and ***immigrants*** living temporarily abroad who have not maintained a usual place of residence in Canada.

Population
Estimated population and population according to the census are both defined as being the number of Canadians whose usual place of residence is within that area, regardless of where they happened to be on Census Day. Also included are any Canadians staying in a dwelling in that area on Census Day and having no usual place of residence elsewhere in Canada, as well as those considered **non-permanent residents**.

Population estimate

a. ***Postcensal:*** Population estimate produced by using data from the most recent available census adjusted for ***census net undercoverage*** (including adjustment for incompletely enumerated Indian reserves) and estimate of the ***components of demographic growth*** since that last census. This estimate can be preliminary, updated or final.

b. ***Intercensal:*** Population estimate derived by using ***postcensal estimates*** and data adjusted for ***census net undercoverage*** (including adjustment for incompletely enumerated Indian reserves) of censuses preceding and following the year in question.

Population growth or total growth
Variation of population size between two dates. It can also be obtained by summing the natural increase, total net migration and if applicable, subtract residual deviation. It can be positive or negative.

Precocity error
Difference between preliminary and final estimate of a particular component in terms of its relative proportion of the total population for the relevant geographical area. It can be calculated for either population estimates or components of population growth.

Rate
Refers to the ratio of the number of events estimated in a year (t, t+i) to the average populations at the beginning and the end of the period. In this regard, births, deaths, immigration rates, etc. are calculated. Generally, the rates are expressed in per 1,000.

Census net undercoverage of population rate: Difference between the census undercoverage rate and the census overcoverage rate.

Demographic growth rate or population growth rate: Ratio of population growth between the year t and t+i, to the average **population** of both these years. The rate is generally expressed in per 1,000.

Overcoverage of population rate: The ratio of the number of persons who should not have been counted in the census or who were counted more than once to the total number of persons that should have been enumerated in the census. Generally, the rate is expressed in percentage.

Undercoverage of population rate: The ratio of the estimated number of persons not enumerated in the census (who were intended to have been enumerated) to the total number of persons that should have been enumerated in the census. Generally, the rate is expressed in percentage.

Residual deviation
Difference between demographic population growth calculated using intercensal estimates of population between two dates and that obtained by the sum of the components for the same period. This deviation results from the

distribution of the error of closure between years within the quinquennial period. This distribution is calculated by taking into account the number of days within each month.

Returning emigrant
Canadian citizen or ***immigrant*** having previously emigrated from Canada and subsequently returned to the country.

Total net migration
Sum of ***net international*** and ***net interprovincial*** migration.

Vital statistics
Includes all the demographic events (births, deaths, marriages and divorces) for which there are a legal requirement to inform the Provincial or Territorial Registrar's Office.

Appendix 2: Sources and remarks

Base population:

May 10, 2011 Census of Population adjusted for census net undercoverage and incompletely enumerated Indian reserves.

2011 Census: Statistics Canada, Census of Canada, 2011, Catalogue no. 98-310-X (http://www12.statcan.gc.ca/census-recensement/2011/dp-pd/hlt-fst/pd-pl/Index-eng.cfm?Lang=Eng).

Census net undercoverage: See The Daily, September 26, 2013.

Incompletely enumerated Indian reserves: See The Daily, September 26, 2013.

Births and deaths

Statistics Canada, Health Statistics Division.

Statistics Canada, Demography Division, Catalogue no. 91 002 X, Quarterly.

Births — Fertility rates for 2013 based on births by age of mother provided by Health Statistics Division applied to the female population estimates at the beginning of the quarter. Births for Quebec and British Columbia were provided by their respective agencies.

Deaths — Mortality rates for 2013 based on deaths by age group and sex provided by Health Statistics Division applied to the population estimates by age group and sex at the beginning of the quarter. Deaths for Quebec and British Columbia were provided by their respective agencies.

Immigration

Estimates are based on the immigrant files provided by Immigration, Refugees and Citizenship Canada (IRCC) received on May 15, 2018.

Emigration

The estimates are produced by Demography Division using:

- data from Canada Revenue Agency (CRA) Canada child benefit (CCB) program (formerly Canada child tax benefit (CCTB)). From 2015/2016, we used 2014/2015 data;
- tax data calculated using T1FF file provided by the Income Statistics Division of Statistics Canada. From 2015/2016, we used 2014/2015 data;
- data provided by the U.S. Department of Homeland Security, Office of Immigration Statistics. From 2016/2017, we used 2015/2016 data;
- data on the number of adult and children emigrants from T1FF file used for the provincial distribution of adults. From 2015/2016, we used 2014/2015 data.

Please note that for the emigration, the returning emigration and the net temporary emigration, the estimates for the most recent periods are expected to be identical or very similar. In the absence of more up-to-date data sources, the assumption is made that levels remain similar.

Returning emigration

The estimates are produced by Demography Division using:

- data from Canada Revenue Agency (CRA) Canada child benefit (CCB) program (formerly Canada child tax benefit (CCTB)). From 2015/2016, we used 2014/2015 data;
- 2011 National Household Survey – question on the place of residence one year ago.

Please note that for the emigration, the returning emigration and the net temporary emigration, the estimates for the most recent periods are expected to be identical or very similar. In the absence of more up-to-date data sources, the assumption is made that levels remain similar.

Net temporary emigration

The estimates are produced by Demography Division using:

- data from the Reverse Record Check (RRC) of the 2011 Census;
- 2011 National Household Survey – question on the place of residence 5 years ago;
- estimates of returning emigrants for 2006 to 2011 intercensal period;
- distribution by age and sex of emigrants.

Please note that for the emigration, the returning emigration and the net temporary emigration, the estimates for the most recent periods are expected to be identical or very similar. In the absence of more up-to-date data sources, the assumption is made that levels remain similar.

Non-permanent residents

The estimates are produced by Demography Division using the Global Case Management System (GCMS) files from IRCC. These files, received on May 15, 2018, document the number of persons holding permits/ authorizations or claiming refugee status.

Interprovincial migration

The estimates are produced by Demography Division using:

- data from Canada Revenue Agency (CRA) Canada child benefit (CCB) program (formerly Canada child tax benefit (CCTB)) adjusted migration data for children;
- factors ($_{i}G$) corresponding to the ratio of the migration rate of all children to the migration rate of children who are registered to the CCB program calculated using 2015/2016 tax file data;
- factors ($_{jk}F$) used to calculate adult migration and corresponding to the ratio of the adult to child migration rates, calculated on a three-year basis using tax file data for 2013/2014, 2014/2015 and 2015/2016.

Note: We remind you that it is normal for the sum of the monthly in- and out- interprovincial migrants not to be equal to the number of quarterly or yearly interprovincial in- and out- migrants.

Related products

Publications

91-003-X	Canadian Demographics at a Glance
91-209-X	Report on the Demographic Situation in Canada
91-214-X	Annual Demographic Estimates: Subprovincial Areas
91-215-X	Annual Demographic Estimates: Canada, Provinces and Territories
91-520-X	Population Projections for Canada, Provinces and Territories
91-528-X	Population and Family Estimation Methods at Statistics Canada

Tables

17-10-0005-01	Population estimates on July 1st, by age and sex
17-10-0006-01	Estimates of deaths, by age and sex, annual
17-10-0008-01	Estimates of the components of demographic growth, annual
17-10-0009-01	Population estimates, quarterly
17-10-0014-01	Estimates of the components of international migration, by age and sex, annual
17-10-0015-01	Estimates of the components of interprovincial migration, by age and sex, annual
17-10-0016-01	Estimates of births, by sex, annual
17-10-0020-01	Estimates of the components of interprovincial migration, quarterly
17-10-0021-01	Estimates of the components of interprovincial migration, annual
17-10-0022-01	Estimates of interprovincial migrants by province or territory of origin and destination, annual
17-10-0023-01	Estimates of non-permanent residents, quarterly
17-10-0040-01	Estimates of the components of international migration, quarterly
17-10-0044-01	Estimates of non-permanent residents as of July 1st, by age and sex
17-10-0060-01	Estimates of population as of July 1st, by marital status or legal marital status, age and sex
17-10-0045-01	Estimates of interprovincial migrants by province or territory of origin and destination, quarterly
17-10-0061-01	Estimates of the number of census families as of July 1st
17-10-0059-01	Estimates of the components of natural increase, quarterly
13-10-0708-01	Deaths, by month
13-10-0709-01	Deaths, by age group and sex
13-10-0415-01	Live births, by month
13-10-0416-01	Live births, by age of mother

Surveys

3231	Vital Statistics - Birth Database
3233	Vital Statistics - Death Database
3601	Estimates of Total Population, Canada, Provinces and Territories
3604	Estimates of Population by Age and Sex for Canada, Provinces and Territories
3605	Estimates of Population by Marital Status, Legal Marital Status, Age and Sex for Canada, Provinces and Territories
3606	Estimates of the number of Census Families for Canada, Provinces and Territories